FIREARM OF INTERCONVERTIBLE CALIBERS

BACKGROUND OF THE INVENTION

This invention relates to an automatic pistol adaptable to fire cartridges of different calibers. More specifically, this invention relates to an automatic pistol of the breech block type interconvertible to fire cartridges of different calibers.

The conversion of breech block types of automatic pistols such as the Colt Government Model .45 to a subcaliber has usually resulted in a permanent alteration to the sub-caliber. Such conversions have generally utilized the grip or frame end, in some cases, the firing mechanism of the larger caliber pistol, but have required a new slide, extractor and ejector as well as a new barrel and magazine, or permanent alterations to an existing slide, ejector and extractor.

The barrel in a Colt .45 is connected to the frame by a pivotal link and is interlocked to the slide by ribs as well as by tension from a recoil spring mounted in the slide. Upon recoil, the barrel and slide move backwardly together for a short distance. Because of its pivotal linkage to the frame, the rear part of the barrel moves downwardly, disengaging from the slide and allowing the slide to continue its rearward movement. The backward movement of the slide causes the firing mechanism to be cocked and causes the extraction and ejection of the cartridge case. At the end of the backward movement of the slide, the compressed recoil spring moves the slide forward causing a cartridge to be withdrawn from the magazine and pushed into the chamber of the barrel in firing position. Near the end of its forward movement the slide again engages the barrel and the pivotal movement is reversed causing the barrel and slide to interengage.

Previous modifications such as disclosed by Williams, U.S. Pat. No. 2,090,657, alter this form of operation. The subcaliber barrel, instead of being reciprocable, is rigidly secured to the frame. In many conversion kits the new slide is fixedly secured to the barrel, and the rear portion of the slide, referred to as the breech block, retreats to eject an empty case, cock the pistol and returns to firing position, thus loading the firing chamber with a fresh cartridge. These modifications do not contain a locked breech. Without a breechlock the action often starts opening before the bullet is out of the barrel greatly affecting the accuracy of the firearm. Typical conversions are to be found in U.S. Pat. No. 2,872,850; U.S. Pat. No. 2,898,693 and U.S. Pat. No. 3,724,326.

One reason given by gunsmiths for requiring a new slide, or permanent alteration to an existing slide, for sub-caliber conversion is that, due to the great difference in case head size, such as between a 0.45 and 0.38, the slide will not work well with the sub-caliber cartridges. Presumably, this is due to the extractor and the cartridge locating recess in the breechface of the slide being specific to one case head diameter only.

Prior art extractors have been constructed in such a manner that the movement allowed for capturing and extracting a cartridge case has been within very specific dimensional tolerances. If an extractor projects too far into the breech toward the center of the bore, it may interfere with the cartridge during feeding or loading causing the breech block to malfunction or jam. On the other hand, if an extractor rests too far away from the center line of the bore it will fail to interface with the cartridge case head or rim and fail to capture and extract the cartridge case from the firing chamber.

It is also the prevailing opinion of many skilled in the art that a new slide, having a sub-caliber cartridge locating recess, or an existing slide, permanently altered, by reducing the size of the cartridge locating recess (by either "welding-up" and remachining, or permanently installing a bushing) is necessary to prevent the sub-caliber cartridge from becoming dislocated in the breech thus avoiding capture and extraction.

OBJECTS AND BRIEF SUMMARY OF THE INVENTION

It is an object of the present invention to provide an interchangeable sub-caliber conversion unit on a larger caliber pistol wherein the slide and frame of the larger caliber pistol may be utilized without modification when converting to sub-caliber operation.

It is also an object of the invention to provide an interchangeable sub-caliber conversion unit wherein the sub-caliber barrel is pivotally attached to the frame in the same manner as the larger caliber barrel.

Another object of the invention is to provide an interchangeable sub-caliber conversion unit wherein the extractor mounted in the slide is cambered and sufficiently flexible to extract both larger and sub-caliber cartridge cases from the pistol.

A still further object of the invention is to provide an interchangeable conversion unit of the breech block type wherein the cartridge locating breech face recess of the slide is that of the larger caliber.

Yet another object of this invention is to provide an interchangeable conversion unit of the breech block type having a locked breech wherein a 0.45 ACP may be converted to fire 0.38 special wadcutter cartridges.

These and other objects may be accomplished by means of employing the frame, handle, slide, ejector, extractor and firing mechanism of the larger caliber pistol and providing a conversion unit containing sub-caliber parts which are interchangeable with the corresponding larger caliber parts and function in exactly the same manner. A sub-caliber barrel is provided which fits into the slide and is connected to the frame by a pivotal link just like the larger caliber barrel. A barrel bushing supports the sub-caliber barrel at the forward part of the slide and is sized to fit the outside diameter of the barrel. A lighter recoil spring, allowing the slide to function in the normal manner upon the firing of a sub-caliber cartridge, replaces the normal recoil spring. A sub-caliber magazine or magazine insert replaces or modifies the larger caliber magazine. The extractor remains the same for both larger and sub-caliber cartridges but is different from the prior art extractor in that it is cambered so as to capture the cartridge head or rim of both larger and sub-caliber cases, but is resilient or flexible enough not to interfere with the loading of a cartridge from the magazine through the breech into the barrel chamber. The cartridge locating recess in the breech face is not modified, being that of the larger caliber. The hammer spring (main spring) remains the same for both larger and sub-caliber cartridges, but is different from usual prior art in that it is (1) light enough to allow the sub-caliber cartridge recoil force to operate the slide with suffecient rearward force to cam the hammer back, and (2) strong enough to impart adequate force on both the larger and sub-caliber primers to effect positive ignition.